



S/N 09/903,412

PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant:	Shohei Koide	Examiner:	Teresa D. Wessendorf
Serial No.:	09/903,412	Group Art Unit:	1639
Filed:	July 11, 2001	Docket No.:	17027.003US1
Title:	ARTIFICIAL ANTIBODY POLYPEPTIDES		

SUPPLEMENTAL INFORMATION DISCLOSURE STATEMENT

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In accordance with the duty imposed by 37 C.F.R. § 1.156, and in accordance with 37 C.F.R. §§ 1.97 *et. Seq.*, the enclosed materials are brought to the attention of the Examiner for consideration in connection with the above-identified patent application. Applicant respectfully requests that this Supplemental Information be entered and the documents listed on the attached Form PTO/SB/08A be considered by the Examiner and made of record. Pursuant to provisions of MPEP 609, Applicant requests that a copy of the Form PTO/SB/08A, initial as being considered by the Examiner, be returned to the Applicant with the next official communication.

This filing is being made with the filing of a Request for Continued Examination. No fee is required.

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Title: ARTIFICIAL ANTIBODY POLYPEPTIDES

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Dkt: 17027.003US1

The Examiner is invited to contact the Applicant's Representative at the below-listed telephone number if there are any questions regarding this communication.

Respectfully submitted,

SHOHEI KOIDE

By his Representatives,

VIKSNINS HARRIS & PADYS PLLP

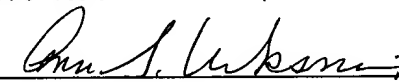
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First Named Inventor	Shohei Koide
Art Unit	1639
Examiner Name	Teresa D. Wessendorf
Attorney Docket Number	17027.003US1

U. S. PATENT DOCUMENTS

Examiner Initials*	Cite No. ¹	Document Number	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number-Kind Code ² (if known)			
		US- 6,348,584	02-19-2002	Hodgson et al.	
		US- 6,673,901	01-09-2004	Koide	
		US- 6,703,199	03-09-2004	Koide	
		US- 6,462,189	10-08-2002	Koide	
		US- 6,391,855	05-21-2002	Blaschuk et al.	
		US- 6,818,418	11-15-2004	Lipovsek et al.	
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		US- 2003/0108948	06-12-2003	Koide	
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		US- 2004/0259155	12-23-2004	Chan et al.	
		US- 2005/0038229	02-17-2005	Lipovsek et al.	
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FOREIGN PATENT DOCUMENTS

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		Country Code ³ Number ⁴ Kind Code ⁵ (if known)				
		WO-94/24278	10-27-1994	Davis, Claude		
		WO-95/27045	10-12-1995	Smith, Rodger.G.		
		WO-94/18221	08-18-1994	Barbas et al.		
		WO-98/56915	12-17-1998	Koide, Shohei		
		WO-00/34784	06-15-2000	Lipovsek, Dasa		
		JP-8-511417	03-12-1996	Davis et al.		

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		WO-01/64942	09-07-01	Lipovsek et al	
		WO-04/019878	03-11-04	Afeyan et al.	
		WO-05/056764	06-23-05	Chen et al.	

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NON PATENT LITERATURE DOCUMENTS

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Sheet 9 of 25	Application Number	09/903,412	
	Filing Date	July 11, 2001	
	First Named Inventor	Shohei Koide	
	Art Unit	1639	
	Examiner Name	Teresa D. Wessendorf	
		Attorney Docket Number	17027.003US1

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Sheet 17 of 25	Application Number	09/903,412
	Filing Date	July 11, 2001
	First Named Inventor	Shohei Koide
	Art Unit	1639
	Examiner Name	Teresa D. Wessendorf
Attorney Docket Number		17027.003US1

NON PATENT LITERATURE DOCUMENTS

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		Merkel and Regan, "Modulating protein folding rates in vivo and in vitro by side-chain interactions between the parallel beta strands," J Biol Chem., 2000, 275:29200-29206	
		Metzler et al., "The three-dimensional solution structure of the SH2 domain from p55blk kinase," Biochemistry, 1996, 35:6201-6211	
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		Minor and Kim, "Measurement of the α -sheet-forming propensities of amino acids," Nature, 1994, 367:660-663	
		Muhandiram et al., "An enhanced-sensitivity pure absorption gradient 4D 15N,13C-edited NOESY experiment," J. Biomol. NMR, 1993, 3:463-470	
		Muller et al., "Structure of the NH-kB p50 homodimer bound to DNA," Nature, 1995, 373:311-117	
		Myers et al., Protein Sci., 1995, 4:2138-2148	
		Nicholls et al., "Protein folding and association: insights from the interfacial and thermodynamic properties of hydrocarbons," Proteins, 1991, 11:281-296	
		Nilges et al., "Determination of three-dimensional structures of proteins...", FEBS Lett., 1988, 229:317-324	
		Nilges et al., Computational aspects of the study of biological macromolecule..., 1991, (Hoch, J. C., Poulsen, F. M. and Redfield, C., Ed.), pp. 451-455, Plenum Press, New York	

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				Filing Date	July 11, 2001
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				Art Unit	1639
				Examiner Name	Teresa D. Wessendorf
				Attorney Docket Number	17027.003US1

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		Ojennus et al., "Reconstitution of a native-like SH2 domain from disordered peptide fragments examined by multidimensional...", Protein Science, 2001, 10:2162-2175	
		Oakley et al., "A buried polar interaction can direct the relative orientation of helices in a coiled coil," Biochemistry, 1998, 37:12603-12610	
		O'Neil et al., Techniques in Protein Chemistry V, 1994, (Crabb, L., ed.) pp. 517-524, Academic Press, San Diego	
		O'Neil and Hoess, "Phage display: protein engineering by directed evolution," Curr. Opinion Struct. Biol., 1995, 5:443-449	
		Pabo et al., "Design and selection of novel Cys2His2 zinc finger proteins," Annu Rev Biochem., 2001, 70:313-340	
		Pace and Scholtz, "Measuring the conformational stability of a protein," Protein structure. A practical approach, 1997, (Creighton, T. E. Ed.) pp. 299-321, IRL Press, Oxford	
		Pace et al., Faseb J., 1996, 10:75-83	
		Pace et al., Biochemistry, 1992, 31:2728-2734.	
		Parmley et al., "Antibody-selectable filamentous fd phage vectors: affinity purification of target genes," Gene, 1988, 73:305-318	
		Pascal et al., "Nuclear magnetic resonance structure of an SH2 domain of phospholipase C-g1 complexed with a high affinity binding peptide," Cell, 1994b, 77:461-472	

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		Pascal et al., "Simultaneous acquisition of 15N-and 13C-edited NOEspectra of proteins dissolved in H2O," J. Magn. Reson. B, 1994a, 103:197-201	
		Patten et al., "Applications of DNA shuffling to pharmaceuticals and vaccines," Curr. Opin. Biotechnol. 1996, 8:724-733	
		Pelletier et al., "Oligomerization domain-directed reassembly of active dihydrofolate reductase from rationally designed fragments," Proc. Natl. Acad. Sci. USA, 1998, 95:12141	
		Perl et al., "Two exposed amino acid residues confer thermostability on a cold shock protein," Nat Struct Biol., 2000, 7:380-383	
		Perutz et al., J Mol Biol., 1985, 183:491-498	
		Pessi, A., et al., "A designed metal-binding protein with a novel fold", Nature, 362, 367-369 (1993).	
		Pierschbacher and Ruoslahti, Nature, 1984, 309:30-33	
		Plaxco et al., Proc. Natl. Acad. Sci. USA, 1996, 93:10703-10706	
		Plaxco et al., J. Mol. Biol., 1997, 270:763-770	
		Rader and Barbas, "Phage display of combinatorial antibody libraries," Curr Opin Biotechn., 1997, 18:503-508.	

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		Raquet et al., "Detection of altered protein conformations in living cells," J Mol Biol., 2001, 305:927-938	
		Rees et al., "Antibody design: beyond the natural limits," Trends Biotechnol., 1994, 12:199-206	
		Roberts et al. Proc. Natl. Acad. Sci. USA, 1992, 89:2429-2433	
		Roberts et al., "Affinity maturation of proteins displayed on surface of M13 bacteriophage as major coat protein fusions," Methods Enzymol., 1996, 267:68-82	
		Rosenblum, J.S., et al., "Synthetic Antibodies", Antibody Engineering, Oxford University Press, Oxford, 89-116 (1995).	
		Suzuki, H., "Recent Advances in Abzyme Studies", J. Biochem., 115, 623-628 (1994).	
		Sali et al., J. Mol. Biol., 1991, 220:779-788	
		Sancho and Fersht, "Dissection of an enzyme by protein engineering...", J Mol Biol., 1992, 224:741-747	
		Sandhu et al., "Dual asymmetric PCR: onestep construction of synthetic genes," BioTech., 1992, 12:14-16	
		Santoro and Bolen, "Unfolding free energy changes determined by the linear extrapolation method. 1...", Biochemistry, 1988, 27:8063-8068	

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		Savchenko et al., "Pyrococcus furiosus alpha-Amylase Is Stabilized by Calcium and Zinc," Biochemistry, 2002, 41:6193-6201	
		Sblattero and Bradbury, "Exploiting recombination in single bacteria to make large phage antibody libraries," Nat Biotechnol., 2000, 18:75-80	
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		Schiweck, W., et al., "The rational construction of an antibody against cystatin...", J. Mol. Biol., vol. 268, 934-951, (1997).	
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		Shortle, D., et al., "Contributions of the large hydrophobic amino acids to the stability of staphylococcal nuclease", Biochemistry, vol. 29, 8033-8041, (1990).	
		Shusta, E.V., et al., "Directed evolution of a stable scaffold for T-cell receptor engineering", Nature Biotechnology, vol. 18, pp. 754-759 (Jul. 2000).	
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		Smith and Scott, "Libraries of peptides and proteins displayed on filamentous phage," Methods Enzymol., 1993, 217:228-257	

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		Smith, "Filamentous fusion phage: novel expression vectors that display cloned antigens on the virion surface," Science, 1985, 228:1315-1317	
		Smith and Regan, "Guidelines for protein design: The energetics of • sheet side chain interactions," Science, 1995, 270:980-982	
		Smith et al., "Studying a-helix and •-sheet formation in small proteins," Techniques Prot. Chem., 1995, 6:323-332	
		Smith et al., "A thermodynamic scale for the •-sheet forming tendencies of the amino acids," Biochemistry, 1994, 33:5510-5517	
		Smyth and von Itzstein, "Design and synthesis of a biologically active antibody mimic based on an antibody-antigen crystal structure," Am. Chem. Soc., 1994, 116:2725-2733	
		Spector et al., Biochemistry, 2000, 39:872-879	
		Studier et al., "Use of T7 RNA polymerase to direct expression of cloned genes," Methods Enzymol., 1990, 185:60-89	
		Suzuki, "Recent advances in abzyme studies," J. Biochem., 1994, 115:623-628	
		Tasayco and Chao, "NMR study of the reconstitution of the beta-sheet of thioredoxin by fragment complementation," Proteins, 1995, 22:41-44	
		Tasayco et al., "Interaction between two discontinuous chain segments...", Biochemistry, 2000, 39:10613-10618	

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		Tello et al., "Immunoglobulin superfamily interactions," Biochem. Soc. Trans., 1993, 21:943-946	
		Thomas, N.R., "Hapten Design for the Generation of Catalytic Antibodies", Applied Biochemistry and Biotechnology, 47, 345-372 (1994).	
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		Vuister and Bax, "Resolution enhancement and spectral editing of uniformly ¹³ C-enriched proteins by homonuclear broadband ¹³ C decoupling," J. Magn. Reson., 1992, 98:428-435	
		Vuister et al., "Increased resolution and improved spectral quality in four-dimensional ¹³ C/ ¹³ C-separated...", J. Magn. Reson. B, 1993, 101:210-213	
		Ward et al., "Binding activities of a repertoire of single immunoglobulin variable domains secreted from Escherichia coli," Nature, 1989, 341:554-546	
		Webster et al., "Antibody-antigen interactions," Curr. Opinion Struct. Biol., 1994, 4:123-129	

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		Williams and Barclay, Ann. Rev. Immunol., 1988, 6:381-405	
		Wilson and Stanfield, "Antibody-antigen interactions," Curr. Opinion Struct. Biol., 1993, 3:113-118	
		Wilson and Stanfield, "Antibody-antigen interactions: new structures and new conformational changes," Curr. Opinion Struct Biol., 1994, 4:857-867	
		Winter, Greg, "Making Antibodies by Phage Display Technology", Ann. Rev. Immunol., 12, 433-455 (1994).	
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		Wittenkind and Mueller, "HNCACB, a high-sensitivity 3D NMR experiment to correlate amide-proton...", J. Magn. Reson. B, 1993, 101:201-205	
		Wittke et al., "Probing the molecular environment of membrane proteins in vivo," Mol Biol Cell., 1999, 10:2519-2530	
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		Yamazaki et al., "Segmental Isotope Labeling for Protein NMR Using Peptide Splicing," Journal of the American Chemical Society, 1998, 120(22):5591-5592	
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Application Number	09/903,412
Filing Date	July 11, 2001
First Named Inventor	Shohei Koide
Art Unit	1639
Examiner Name	Teresa D. Wessendorf
Attorney Docket Number	17027.003US1

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		Yang and Honig, Curr. Opin. Struct. Biol., 1992, 2:40-45	
		Zhang et al., "Circular permutation of T4 lysozyme," Biochemistry, 1993, 32:12311-12318	
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